

DM-170/SRM-170/SRM-170A

User Manual

Version 3.2

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Chapter 1 Product Information

1.1 Product Specifications

DM/SRM series offer multiple mounting options and brightness that maintain a high level of efficiency in any operation environment even in steel plants or warehouse. DM-170/ SRM-170 is a 17.0" flat panel display specially designed to run the applications for industrial environment.

Specifications

- Multiple mounting options: Suitable for panel mounting and 75/100mm interface pads for arm mounting (conform to the proposed VESA standard)
- Panel Interface: DVI and Analog VGA signal (by AV-0911A DVI and Analog VGA to Digital LCD Interface Board)
- DVI (Digital Video Interface) input
 - Sync Detect: for Plug & Display.
 - Cable Distance Support: over 3m with twisted-pair.
 - Compliant with DVI 1.0: DVI is backwards compatible with VESA® P&D™ and DFP.
- Front OSD control keys to adjust the best display quality.
- Side cabling design to less the LCD monitor's total thickness
- Front plastic panel or aluminum material (DM-170-AL/ SRM-170-AL)
- Ship with power adapter for 100-240 VAC input

- **Display Model**

Specifications	DM-170	SRM-170/SRM-170A
LCD Type	CHIMEI 17" LCD M170E4-L01 17.0" TFT LCD	LiteMax 17"LCD SAM1711 17.0" high brightness TFT LCD
Support digital input by	DVI connector and VGA connector	DVI connector and VGA connector
Resolution	1280X1024	1280X1024
Maximum Colors	16.0 M	16.7 M
Brightness	250 cd/m ²	700cd/m ²
Horizontal Frequency	15-80KHz	15-80KHz
Vertical Frequency	55-75Hz	50-75Hz
Operating Temperature	0-50 °C	0-40 °C
Storage Temperature	-20~60 °C	-20~60 °C
Viewing Angle (degree)	160° (Horizontal)	R/L:160°
	160° (Vertical)	U/D:160°
LCD MTBF	50,000 hrs	50,000 hrs
Backlight MTBF	25,000 hrs	20,000 hrs

- **Touch Screen (Optional):**

Screen Model	Dynapro 17.0”	Micro touch
Type	Analog Resistive	Capacitive
Resolution	Continuous	
Light transmission	Typical value 75%	Typical value 83 ±3%
Surface Hardness	4H (Test condition: ASTM D3363-92A)	2H or more
8-wire touch screen	Yes	
Touch Screen Interface	RS-232	RS-232
Operation Voltage		DC 5V±10%
Support Driver	Linux, MS-DOS, Windows 3.1/95/98/CE/ME/2000/NT, OS/2, MAC, etc.	Linux, MS-DOS, Windows 3.1/95/98/2000/NT,OS/2,etc

- Power supply :

Power Supply		DM-170	SRM-170/SRM-170A
Model Number		PSA65U-120	PSU65-105
Input Requirement	Voltage Range	90 to 264 VAC	100 to 240 VAC
	Line Frequency	47 to 63 HZ	47 to 63 HZ ; 1.9A
Output	Voltage Range	+12V ± 0.5V 3.8A 45 Watt	+12V ±1.0V 7.27A 80 Watt
	Ripple and Noise	Voltage 120 mvP	Voltage 120 mvP
Operating Environmental Conditions	Ambient Temperature		0°C~40°C
	Relative Humidity		5%~95%
	Altitude		Sea level to 10,000 feet
	Vibration		10-55Hz, 15 minutes X,Y,Z Axis cycle:20
EMI Emissions			meets the radiated and conducted emission requirements for a (CISPR22 CLASS B) and a (FCC CLASS B)
MTBF			When the power supply is operated within any of the limits of this power supply's specification, the MTBF shall be at least (50,000) hours at 25°C
System Power Consumption		12V / 1.8A (not include touch screen)	12V / 4.8A (not include touch screen)

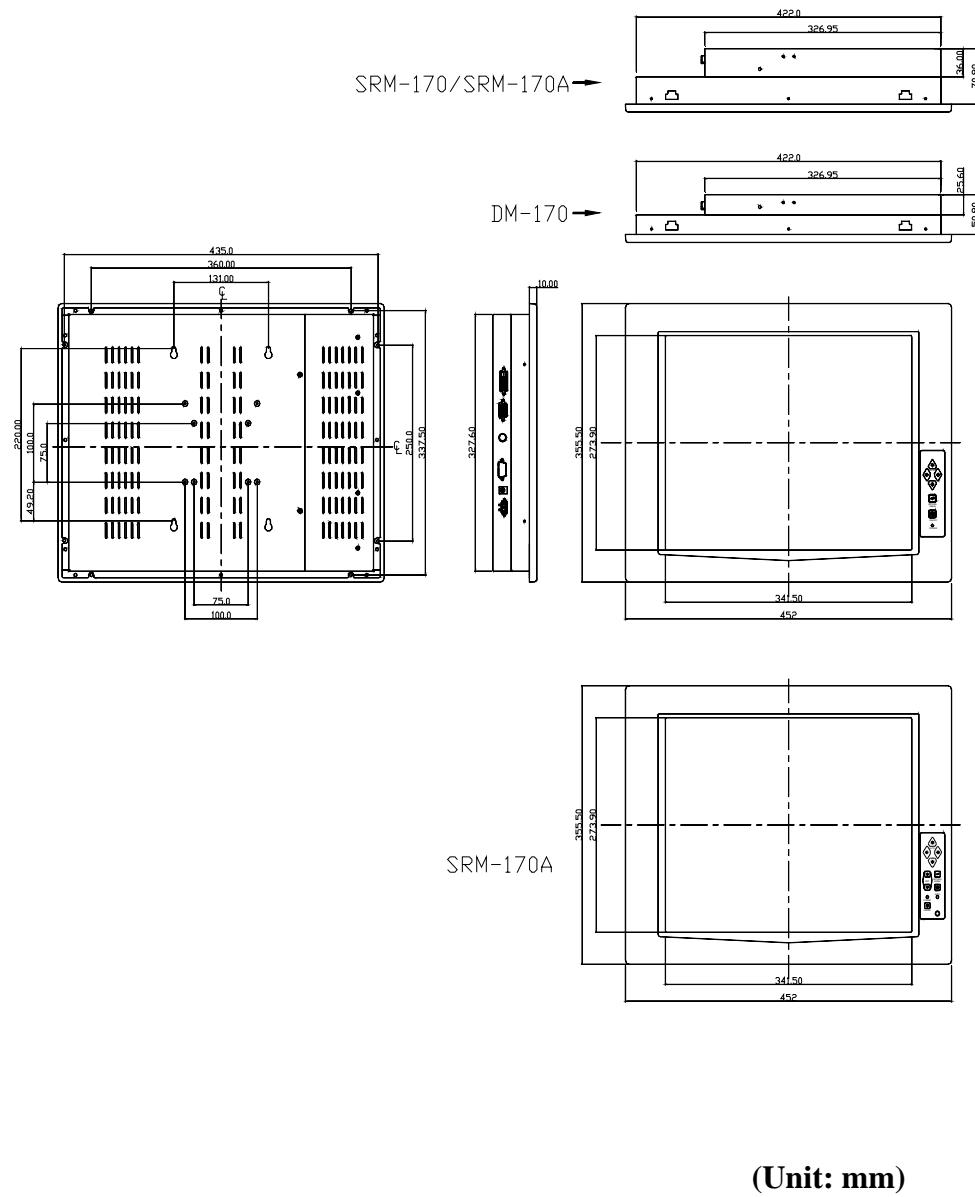
1.2 Product Dimensions

The following diagrams indicate the dimensions of DM-170/ SRM-170/SRM-170A.

Front Panel: 452mm x 355.5mm x 10mm (WxHxD)

Cabinet: 422.0mm x 327.6mm x 50.8mm (WxHxD) →DM-170

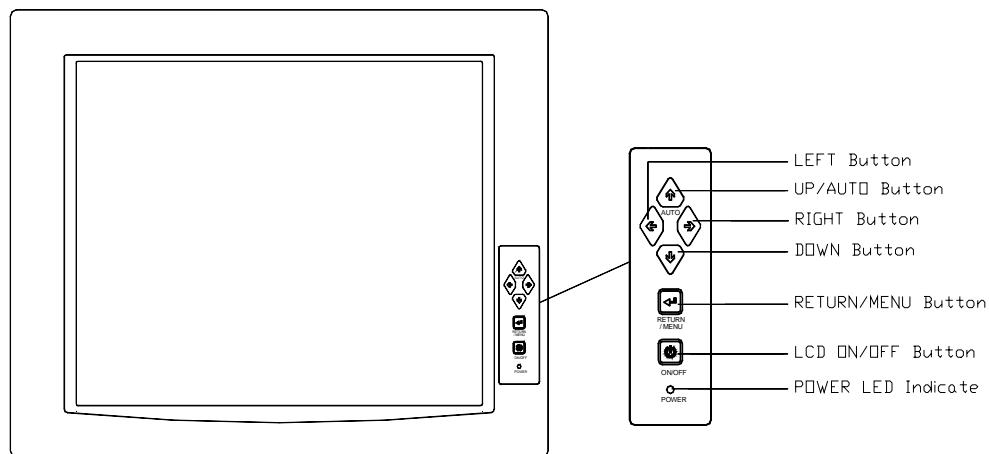
Cabinet: 422.0mm x 327.6mm x 70.8mm (WxHxD) →SRM-170/SRM-170A



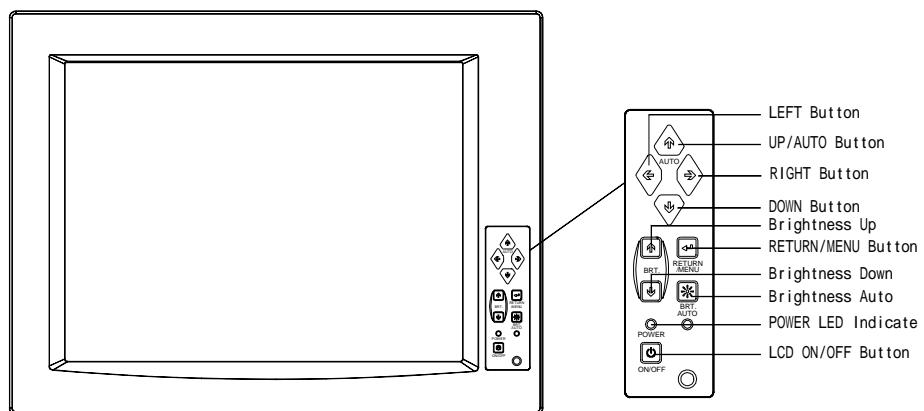
Chapter 2 System Setup

It's very easy to set up the DM-170/ SRM-170/SRM-170A for operation. This chapter shows the procedure of setting up the system.

2.1 Front Panel Operation



SRM-170A has an auto-dimmer function. The brightness of LCD can be adjusted automatically according to that of the surrounding environment.

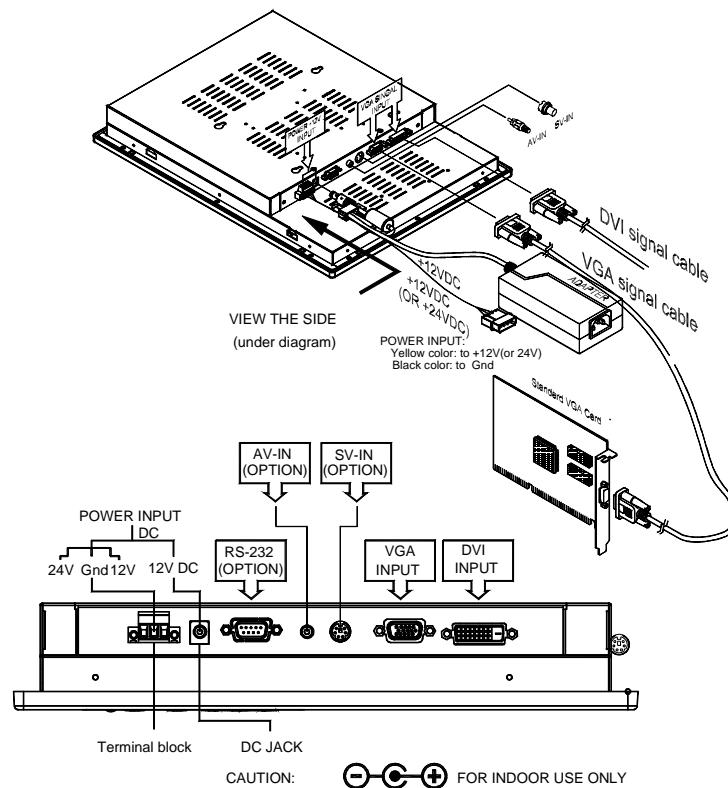


2.2 LCD Installation

DM-170/SRM-170/SRM-170A provides two options for the LCD installation: one is LCD only; the other is LCD with touch screen. The LCD panel and the system VGA interface can be connected to each other with a VGA cable. On the rear panel of DM-170/SRM-170/SRM-170A, there are two ports for the signal inputs -- VGA and DVI (DVI cable is optional). DM/SRM-170-VI provides standard composite and S-video input function.

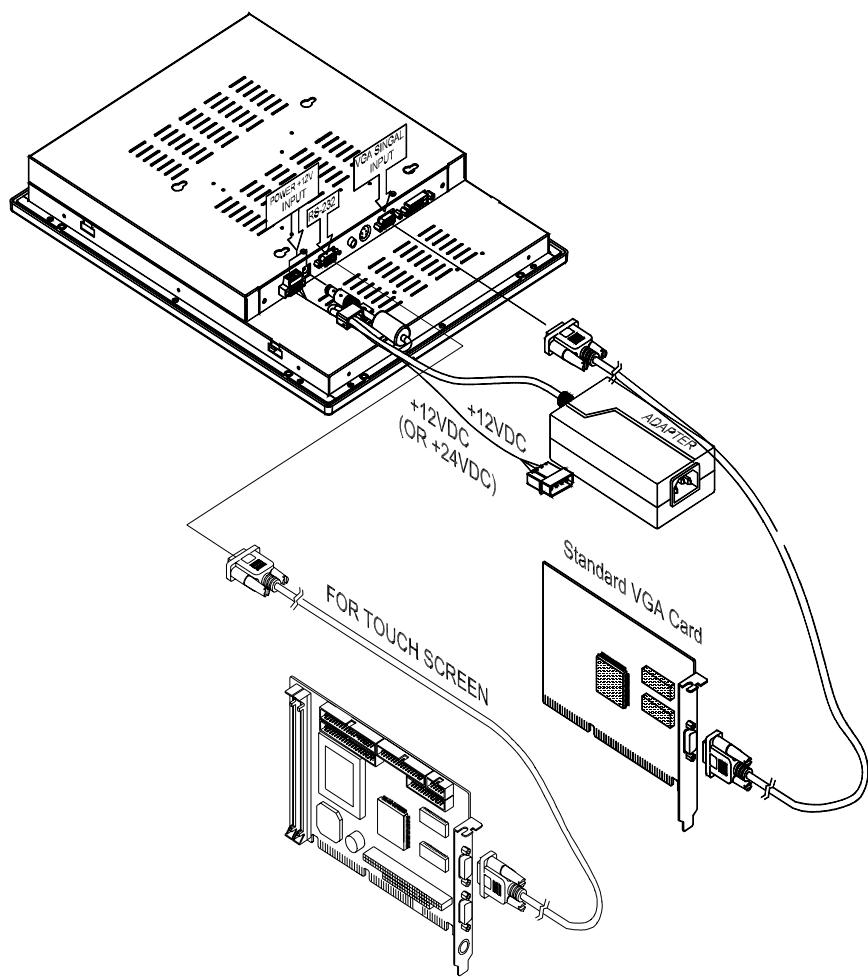
2.2.1 LCD without Touch Screen and Power Input

If you want to install LCD without a touch screen, just connect the VGA cable from LCD connector to the system VGA Signal Input port. For the power connection, you can choose 12V-DC jack (DC 12V power adaptor) or terminal block. For the terminal block connector, both 12V or 24C DC inputs are available.



2.2.2 LCD with a Touch Screen

If you want to install LCD with a touch screen, please connect RS232 connector from LCD to the COM port of the CPU card. The driver for the touch screen is available within the enclosed compact disk.



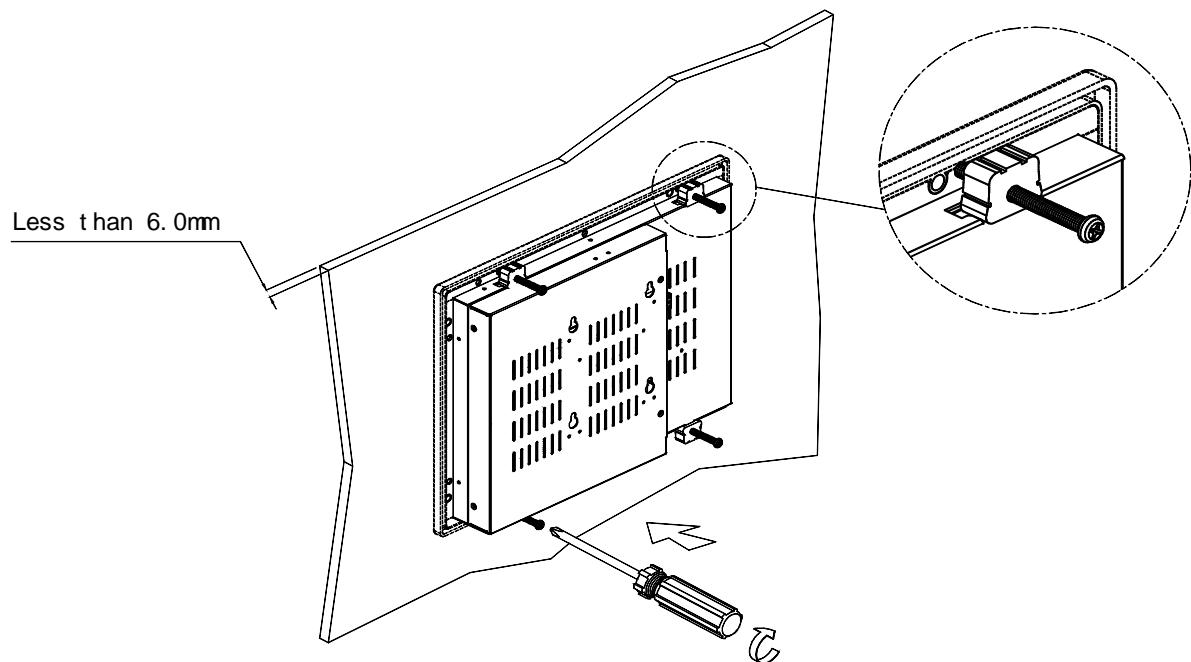
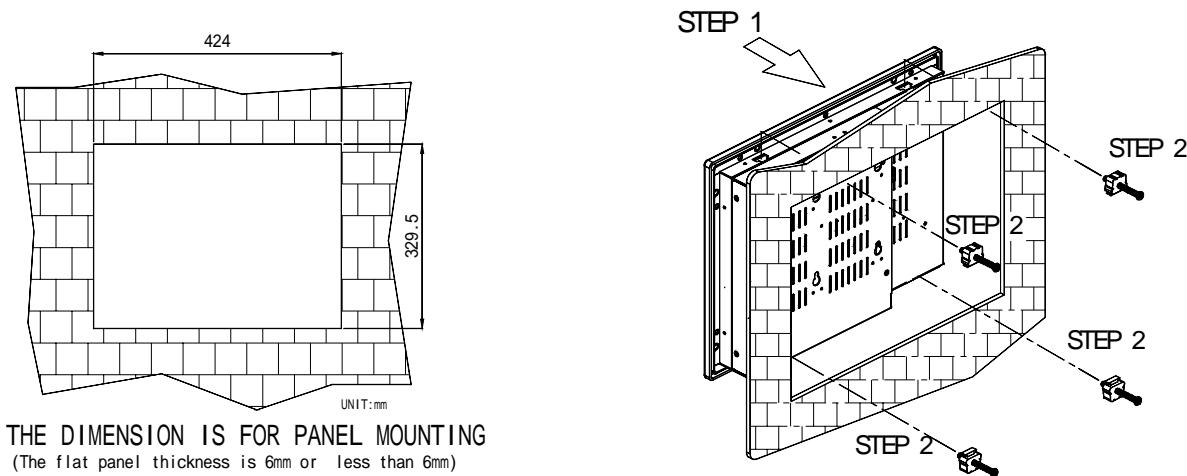
2.3 Panel Mounting

As you mount this flat panel display, please refer to the diagram below.

Note: Check the cut out dimension first.

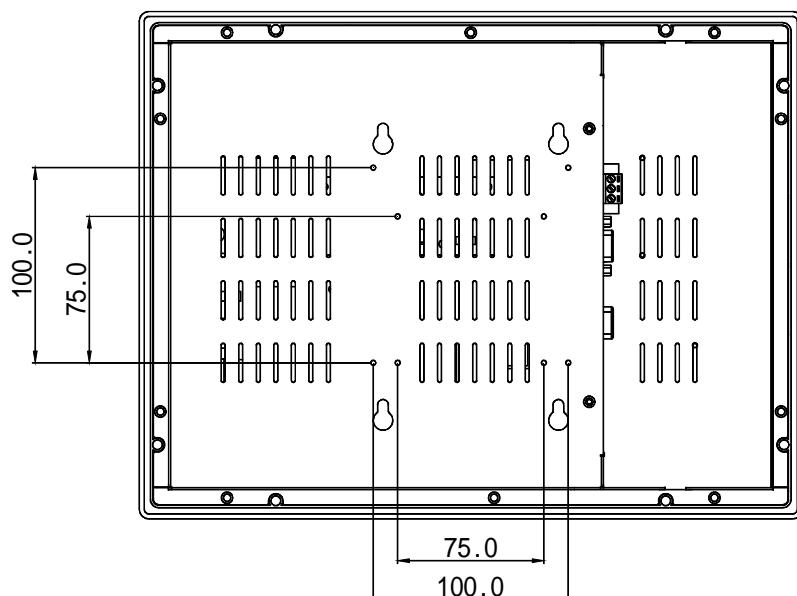
Step1. Place the machine into the panel.

Step2. Fasten it to the panel with four supporters as the diagram shown below.



2.4 Arm Mounting

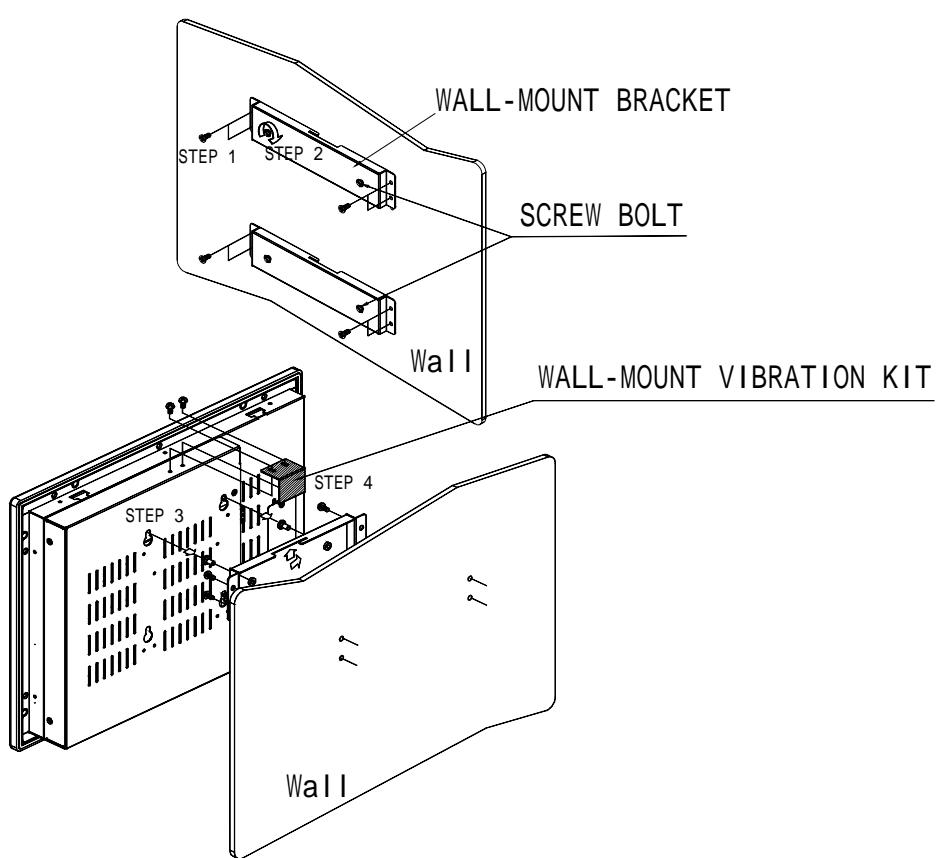
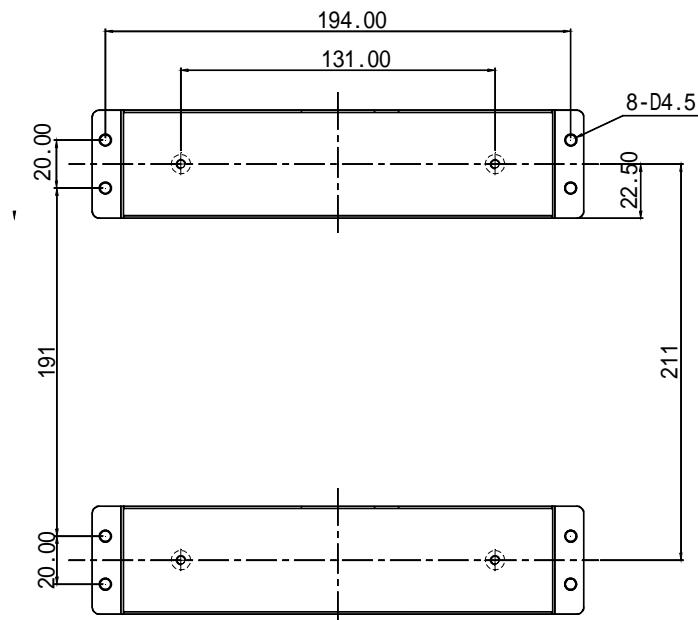
DM-170/ SRM-170/SRM-170A is not only suitable for panel and wall mounting but also ideal for arm mounting with a 75/100 mm interface pad. The specification conforms to proposed VESA standards.



2.5 Wall Mounting

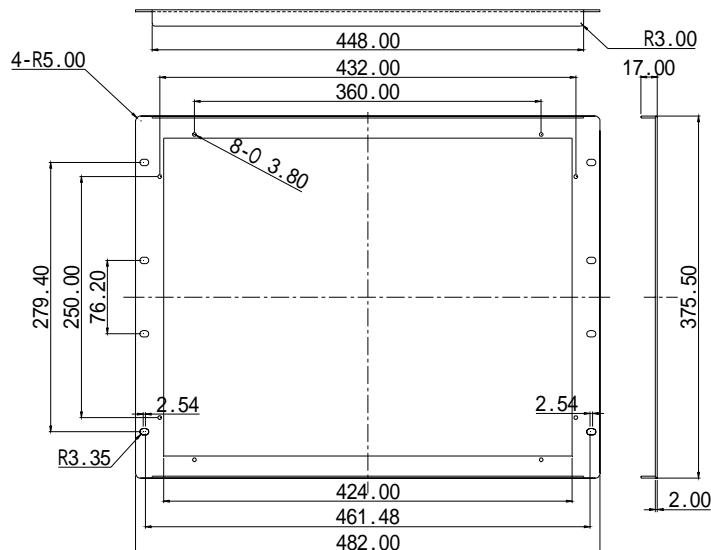
DM-170/ SRM-170/SRM-170A is suitable for wall mounting and the specification conforms to the proposed standard

Note: Drill holds on the place for wall mounting according to the holder shown below.



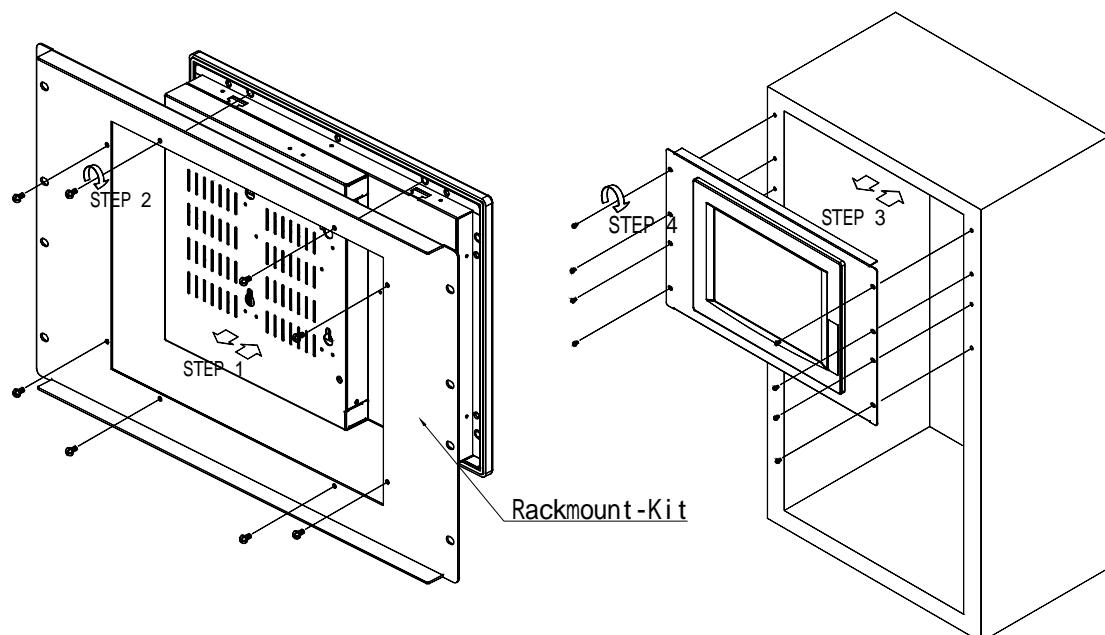
2.6 Rack Mounting

DM-170/SRM-170/SRM-170A provides optional rack-mount kit for industrial racks. The following diagram shows how to mount DM/SRM-170/SRM-170A onto the 19" rack.



Rackmount Kit Dimension

Step1 & 2. Fasten the rack-mount-kit onto the DM/SRM-170/SRM-170A.



Step3 & 4. Fasten the whole machine onto the rack as shown above.

Chapter 3 User Mode OSD

3.1 Features(AV-0911)

- **VGA Input :** RGB VGA input

- Horizontal Sync. : 15K – 80KHz

- Vertical Sync. : 50 – 75Hz

- Maximum Pixel Rate: 24bit pixel at 100MHz

- 48bit pixel at 135MHz

- **Flat Panel Resolution up to 1280x1024**

- **Color TFT LCD Panel:**

- 48bit 2-pixel/clock data interface

- 24bit 1-pixel/clock data interface

- **Flat Panel Function:**

- Amplitude modulation for color TFT LCD panel

- Panel horizontal/vertical expansion

- Panel horizontal/vertical scale up and down

- **LCD Panel Display Enhancement:**

- Filter & interpolation

- 10bit Gamma correction table

- 16-stage of DDC data read/write buffer

- **VESA DPMS:**

- Automatic flat panel power sequencing

- Delayed power-on control for flat panel protection

- **AD Converter:** Trumpon ZURACIII t0911

3.2 Button Function

There are six buttons on OSD panel: ON/OFF, Auto (Up) Down, Right, Left, and Menu (Return). The functions of these six buttons are described below:

- **Menu (Return) Button**

Press it to open or close OSD window and enter user mode to do the function adjustment or selection of the item. One item may contain multiple sub-items.

- **Right Button**

Press the button in OSD windows can increase the brightness directly (SRM-170). Enter the OSD windows, the users can press it to scroll the page, down or increase the value.

- **Left Button**

Press the button not in OSD windows can decrease the brightness directly (SRM-170). Enter the OSD windows, users can press it to scroll the selected item right, down or decrease the value.

- **Auto (Up) Button**

Press it to automatically adjust LCD.

- **ON/OFF Button**

Press it to switch the power on or off.

- **Down Button**

Reserved.

- **Green LED**

It indicates the power is on and the system status is “Active.”

- **Orange LED**

It indicates the power is on but is the system status is “Sleep.”

- **LED No Display**

It indicates the power is off.

3.3 User Mode OSD Structure

LEVEL 0	LEVEL 1	VALUE
DISPLAY ADJUST	H-Position	0-255
	V-Position	0-30
	CLOCK	0-1788
	PHASE	0-31
	AUTO	YES , NO
	EXIT	Press Menu Button
INPUT SELECT	ANALOG	Press Menu Button
	DIGITAL	Press Menu Button
	VIDEO COMPOSITE	Press Menu Button
	VIDEO S-VIDEO	Press Menu Button
	EXIT	Press Menu Button
COLOR ADJUST	COLOR TEMPERATURE	6500K , 9300K
	RED GAIN	0-255
	GREEN GAIN	0-255
	BLUE GAIN	0-255
	EXIT	Press Menu Button
OSD ADJUST	H-Position	0-255
	V-Position	0-255
	OSD-OFF TIME	0-120
	LANGUAGE	English , Espanol , Deutsch , Frangais , Italiao
	EXIT	Press Menu Button
ZURAC ADJUST	BRIGHTNESS-Z	0-255
	CONTRAST-Z	0-255
	DOS-MODE	TEXT , GRAPHICS
	CONTRAST-ADC	0-255
	EXIT	Press Menu Button
EXIT	EXIT OSD	Press Menu Button

3.4 User Mode OSD Item Description

- **AUTO (Auto-Adjustment)**

This item will automatically adjust the H/V position, frequency, phase, and black level.

- **PHASE**

This item will adjust the sampling phase.

- **BRIGHTNESS-Z**

It is used to adjust the brightness of screen. This function will adjust the offset value of ZURAC. Setting this value too high or too low will worsen the quality of image.

- **CONTRAST-Z and CONTRAST-ADC**

It is used to adjust the contrast of screen. This function will adjust the gain value of ZURAC or ADC. Adjusting this value too high or too low will worsen the quality of image.

- **DOS-MODE**

It is used to choose VGA input signal that is text mode or graphic mode. (It is available only for the resolution of 720/640x400 or 720/640x350.) 400 and 350 standard IBM modes have the same H-sync. and V-sync. value. AV-0911 MPU cannot differentiate them automatically. And the users need to adjust them by manual to match the proper VGA mode.

- **H-POSITION**

It is used to adjust the horizontal display position of image.

- **V-POSITION**

It is used to adjust the vertical display position of image.

- **LANGUAGE**

It is used to select the languages used on OSD display. AV-0911 now can support 5 languages (English, Espanol, Deutsch, Frangais, Italiao) on OSD display. English is the default language.

- **Exit**

Press the **EXIT** key to exit the OSD menu if the OSD menu is on the top of the screen.

3.5 Brightness Adjustment

- Bright AUTO button

With this button pressed, Bright AUTO LED will be lit and the brightness of LCD will increase or decrease depending on ambient luminesces, ranging from 0 to 571cd/m²

Note: If the auto-adjust brightness effect can't meet the user's requirement, the user can further manually adjust the desired brightness with the buttons for brightness control on the panel.

The range of brightness (for auto-adjust mode working with the manually-adjust mode) varies according to the LUX as the table shown below:

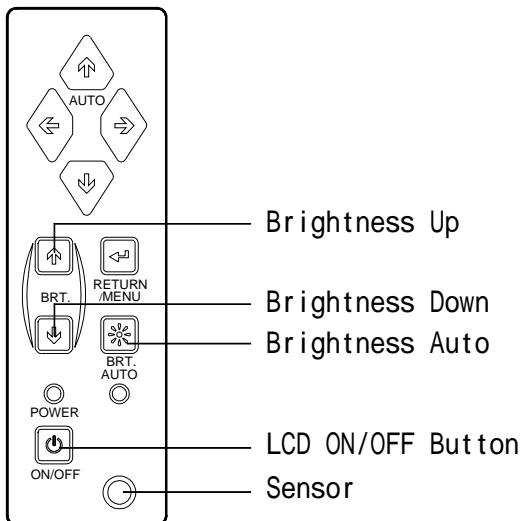
LUX	Auto-adjust only	Auto-adjustment with manual-adjustment	
		The Minimum (/ cd/m ²)	The Maximum (cd/m ²)
0	0	0	117
5	45	0	180
10	98	0	342
30	148	0	410
50	216	90	454
80	248	130	477
100	270	157	489
150	301	207	508
300	360	270	571
400	380	301	-
500	400	328	-
700	423	343	-
800	385	351	-
1000	456	365	-
1300	470	387	-
1500	481	410	-
1600	487	423	-
2500	514	451	-
3500	571	480	-
4000	-	495	-
5000	-	522	-
6000	-	531	-
7500	-	571	-

- Bright up

If the Bright AUTO LED is off, pressing this button will increase the brightness of LCD up to 571 cd/ m²

- Bright down

If the Bright AUTO LED is off ,pressing this button will decrease the brightness of LCD gradually down to 0 nits.



Appendix Accessory List

Item	Part No.	Description	Qty.
1	63PSA65U120-000 63SPU65105-000	POWER SUPPLY..POTRANS POWER(DM-170) POWER SUPPLY..POTRANS POWER(SRM-170/170A)	1
2	32000-000002	POWER CABLE	1
3	32000-036200	VGA CABLE D-SUB 15P M TO M/180CM	1
4	32100-041000	WIRE CABLE/40CM	1
5	42011-000150	PANEL-MOUNT KIT	10
6	41014-020202	WALL-MOUNT VIBRATION KIT	1
7	41020-003302	WALL-MOUNT BRACKET	2
8	42005-000603	SCREW BOLT	4
9	44003-050501	SCREW M5 * 50	10
10	44033-030061	SCREW M3	10
11	44033-040062	SCREW M4	8
12	32000-000098	ROUND CABLE D-SUB 9P /180CM, For TOUCH SCREEN(OPTIONAL)	1

